

BOX PATENT APPLICATION
Attorney Docket No. 24913

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
HEGEMANN, Karl-Rudolf
WEISSERT, Helmut

Serial No. Not Yet Assigned

Filed: February 28, 2002

For: **METHOD OF TREATING GASES ISSUED FROM A SINTERING PLANT**

PRELIMINARY AMENDMENT

The Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examining on the merits and calculating the filing fee for the above-captioned patent application, please amend the application as follows:

IN THE CLAIMS:

Please amend claims 3, 4, 6, and 8-11 as per attached with this preliminary amendment. In addition, please add claims 12-22 as per attached with the preliminary amendment. Pursuant to the new rules implementing the AIPA, a clean copy of the amended claims is attached along with a marked-up copy of the claims indicating the proposed claims amendments.

CLEAN COPY OF CLAIMS AS AMENDED AND ADDED

3. (Amended) Process according to claim 1, characterized in that dust is removed from the partial flow from the cold zone (36) of the sintering plant in one or more electric or filtering separators (32).
4. (Amended) Process according to claim 1, characterized in that the partial flow from the hot zone (38) of the sintering plant first undergoes dust removal before it is introduced into the CO catalyzer.
6. (Amended) Process according to claim 1, characterized in that the partial flow from the hot zone (38) of the sintering plant is additionally treated to reduce Nox content.
8. (Amended) Process according to claim 1, characterized in that the partial flow from the hot zone (38) has a mixing temperature of more than 180°C and the partial flow from the cold zone (36) a mixing temperature of less than 100°C.
9. (Amended) Process according to claim 1, characterized in that the dioxin and furan content in the partial flow from the cold zone (36) is less than 0.5 ng/m³
N.T.P.
10. (Amended) Process according to claim 1, characterized in that the two partial flows are approximately the same size under standard conditions.
11. (Amended) Process according to claim 1, characterized in that in the partial flow from the hot zone (38) a fan (26) is arranged behind the electric or filtering separator (34) and in front of the CO catalyzer (44).

CLEAN COPY OF CLAIMS AS AMENDED AND ADDED

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12. (Added) A process for treatment of gases that are exhausted through a sinter bed in a sintering plant, wherein a distinction can be made between a cold zone of the sintering plant with relatively low gas temperatures and a hot zone of said sintering plant with substantially higher gas temperatures, said process comprising the steps of:

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separately exhausting said gases from said cold zone and from said hot zone, so as to obtain a partial flow from said cold zone and a partial flow from said hot zone;

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subjecting said partial flow from said cold zone and said partial flow from said hot zone to a separate treatment;

wherein the treatment of said partial flow from said hot zone includes:

heating said partial flow from said hot zone in a CO-catalyzer by burning CO gas contained therein; and

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subsequently treating said partial flow from said hot zone in a catalyzer for reducing hydrocarbons, in particular dioxins and furanes, contained therein.

13. (Added) The process according to claim 12, wherein said treatment of said partial flow from said cold zone of said sintering plant consists of a dust removal treatment.

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14. (Added) The process according to claim 13, wherein said dust removal treatment of said partial flow from said cold zone takes place in one or more electric or filtering separators.

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15. (Added) The process according to claim 12, wherein said partial flow from said hot zone of said sintering plant first undergoes a dust removal treatment before it is introduced into said CO-catalyzer.

16. (Added) The process according to claim 14, wherein said dust removal treatment of said partial flow from said hot zone takes place in one or more electric or filtering separators.

CLEAN COPY OF CLAIMS AS AMENDED AND ADDED

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17. (Added) The process according to claim 12, wherein said partial flow from said hot zone of said sintering plant is additionally subjected to a NO_x reducing treatment.
- 5 18. (Added) The process according to claim 17, wherein said NO_x reducing treatment comprises injection of NH₃ into said partial flow from said hot zone of said sintering plant.
- 10 19. (Added) The process according to claim 12, wherein said partial flow from said hot zone of said sintering plant has a mixing temperature of more than 180°C and said partial flow from said cold zone a mixing temperature of less than 100°C.
20. (Added) The process according to claim 12, wherein the dioxin and furan content in the partial flow from the cold zone is less than 0.5 ng/m³ N.T.P.
21. (Added) The process according to claim 12, wherein the two partial flows are approximately the same size under standard conditions.
- 15 22. (Added) The process according to claim 12, wherein said partial flow from said hot zone is exhausted by a fan through an electric or filtering separator, said fan being arranged upstream of said CO-catalyzer.

MARKED-UP COPY OF CLAIMS AS AMENDED AND ADDED

3. (Amended) Process according to claim 1 [or 2], characterized in that dust is removed from the partial flow from the cold zone (36) of the sintering plant in one or more electric or filtering separators (32).
4. (Amended) Process according to [one of claims 1 to 3] claim 1, characterized in that the partial flow from the hot zone (38) of the sintering plant first undergoes dust removal before it is introduced into the CO catalyzer.
6. (Amended) Process according to [one of claims 1 to 5] claim 1, characterized in that the partial flow from the hot zone (38) of the sintering plant is additionally treated to reduce Nox content.
8. (Amended) Process according to [one of claims 1 to 7] claim 1, characterized in that the partial flow from the hot zone (38) has a mixing temperature of more than 180°C and the partial flow from the cold zone (36) a mixing temperature of less than 100°C.
9. (Amended) Process according to [one of claims 1 to 8] claim 1, characterized in that the dioxin and furan content in the partial flow from the cold zone (36) is less than 0.5 ng/m³ N.T.P.
10. (Amended) Process according to [one of claims 1 to 9] claim 1, characterized in that the two partial flows are approximately the same size under standard conditions.
11. (Amended) Process according to [one of claims 1 to 10] claim 1, characterized in that in the partial flow from the hot zone (38) a fan (26) is arranged behind the electric or filtering separator (34) and in front of the CO catalyzer (44).

MARKED-UP COPY OF CLAIMS AS AMENDED AND ADDED

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12. - (Added) A process for treatment of gases that are exhausted through a sinter bed in a sintering plant, wherein a distinction can be made between a cold zone of the sintering plant with relatively low gas temperatures and a hot zone of said sintering plant with substantially higher gas temperatures, said process comprising the steps of:
- 5 separately exhausting said gases from said cold zone and from said hot zone, so as to obtain a partial flow from said cold zone and a partial flow from said hot zone;
- 10 subjecting said partial flow from said cold zone and said partial flow from said hot zone to a separate treatment;
- wherein the treatment of said partial flow from said hot zone includes:
- heating said partial flow from said hot zone in a CO-catalyzer by burning CO gas contained therein; and
- 15 subsequently treating said partial flow from said hot zone in a catalyzer for reducing hydrocarbons, in particular dioxins and furanes, contained therein.
13. (Added) The process according to claim 12, wherein said treatment of said partial flow from said cold zone of said sintering plant consists of a dust removal treatment.
- 20 14. (Added) The process according to claim 13, wherein said dust removal treatment of said partial flow from said cold zone takes place in one or more electric or filtering separators.
15. (Added) The process according to claim 12, wherein said partial flow from said hot zone of said sintering plant first undergoes a dust removal treatment before it is introduced into said CO-catalyzer.
- 25 16. (Added) The process according to claim 14, wherein said dust removal treatment of said partial flow from said hot zone takes place in one or more electric or filtering separators.

MARKED-UP COPY OF CLAIMS AS AMENDED AND ADDED

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17. (Added) The process according to claim 12, wherein said partial flow from said hot zone of said sintering plant is additionally subjected to a NO_x reducing treatment.
- 5 18. (Added) The process according to claim 17, wherein said NO_x reducing treatment comprises injection of NH₃ into said partial flow from said hot zone of said sintering plant.
- 10 19. (Added) The process according to claim 12, wherein said partial flow from said hot zone of said sintering plant has a mixing temperature of more than 180°C and said partial flow from said cold zone a mixing temperature of less than 100°C.
20. (Added) The process according to claim 12, wherein the dioxin and furan content in the partial flow from the cold zone is less than 0.5 ng/m³ N.T.P.
21. (Added) The process according to claim 12, wherein the two partial flows are approximately the same size under standard conditions.
- 15 22. (Added) The process according to claim 12, wherein said partial flow from said hot zone is exhausted by a fan through an electric or filtering separator, said fan being arranged upstream of said CO-catalyzer.- -